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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/656,813	09/08/2003	Hironori Endo	Q77384	7095
23373	7590	05/03/2005	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			HAUPT, KRISTY A	
			ART UNIT	PAPER NUMBER
			2853	

DATE MAILED: 05/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/656,813	<b>Applicant(s)</b> ENDO, HIRONORI	
	<b>Examiner</b> Kristy A. Haupt	<b>Art Unit</b> 2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 September 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Priority*

The Examiner acknowledges the Applicant's request for priority under 35 USC § 119 for Application Number 10/656,813 filed September 08, 2003.

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 3, 5, 10, and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Arquilevich et al. US 6,447,089 B1.

With respect to claim 1, Arquilevich teaches:

- A liquid ejection method of ejecting liquid from a movable ejection head onto a medium (Column 1, Lines 19-21)
- Detecting a position of an end of said medium (Column 3, Lines 46-48)
- Changing, according to a feed amount of said medium fed after said position of the end of said medium has been detected (Column 5, Lines 12-13), at least either a starting position or a terminating position for ejecting said liquid from said ejection head being moved (Column 5, Lines 24-28)

With respect to claim 2 and incorporating all arguments of claim 1, Arquilevich teaches:

- Wherein said ejection head starts liquid ejection at said starting position (Column 7, lines 4-5) and terminates liquid ejection at said terminating position (Column 7, lines 32-33)
- The greater the feed amount is, the further the start of liquid ejection is advanced or the further the termination of liquid ejection is delayed (It is inherent that when an amount of medium is advanced so that the trailing edge can be within the field of view of array, #55, termination of ejection is that much delayed)

With respect to claim 3 and incorporating all arguments of claim 2, it is inherent that the termination of ejection delayed would be proportional to the magnitude of feed amount.

With respect to claim 5 and incorporating all arguments of claim 1, Arquilevich teaches:

- Wherein said liquid is ejected targeting on an entire surface of said medium (Column 1, lines 29-30)

With respect to claim 10 and incorporating all arguments of claim 1, Arquilevich teaches:

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- Wherein said liquid is ink (Column 1, lines 18-19)
- Printing is carried out on a print medium, which is said medium, by ejecting said ink from said ejection head (Column 1, lines 18-23)

With respect to claim 11, Arquilevich teaches:

- A liquid ejecting apparatus comprising a movable ejection head for ejecting liquid (Column 1, lines 19-21)
- A feed mechanism for feeding a medium (Column 2, lines 37-41)
- A sensor for detecting a position of an end of said medium (Column 3, Lines 46-48; Figure 3, detect switch #53)
- Wherein at least either a starting position or a terminating position for ejecting said liquid from said ejection head being moved (Column 5, Lines 24-28) is changed according to a feed amount of said medium fed by said feed mechanism after said position of the end of said medium has been detected by said sensor (Column 5, Lines 12-13)

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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4. Claims 1, 4, 5, 6, 7, 8, 9, 10 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Quintana 5,466,079.

With respect to claim 1 Quintana teaches:

- A liquid ejection method of ejecting liquid from a movable ejection head onto a medium (Column 4, lines 20-24)
- Detecting a position of an end of said medium (Column 8, lines 13-14)
- Changing, according to a feed amount of said medium fed after said position of the end of said medium has been detected (Column 8, lines 10-14), at least either a starting position or a terminating position for ejecting said liquid from said ejection head being moved (Column 8, lines 22-23)

With respect to claim 4 and incorporating all arguments of claim 1, Quintana teaches:

- Wherein at least either said starting position or said terminating position for ejecting said liquid from said ejection head being moved (Column 8, lines 22-23) is changed according to said feed amount of said medium fed after said position of the end of said medium has been detected (Column 8, lines 10-14)
- Wherein at least either said starting position or said terminating position for ejecting said liquid from said ejection head being moved is changed according to a predicted maximum skew angle of said medium (Column 5, lines 37-40)

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With respect to claim 5 and incorporating all arguments of claim 1, Quintana teaches:

- Wherein said liquid is ejected targeting on an entire surface of said medium (Column 6, lines 57-62 and Column 7, lines 32)

With respect to claim 6 and incorporating all arguments of claim 1, Quintana teaches:

- Wherein said position of the end of said medium is detected by a sensor (Column 7, lines 31-32)
- Said sensor includes a light emitting section for emitting light (Column 7, lines 21-22)
- A Light receiving sensor for receiving said light that moves in a main-scanning direction in accordance with a movement of said sensor in the main-scanning direction (Column 2, line 67 – Column 3, lines 1-2 where the optical sensor includes a light source and a light detector (Column 7, lines 17-18))
- Said position of the end of said medium is detected according to a change in an output value of said light receiving sensor that is caused by passing of said light (Column 4, lines 25-27 where the optical sensor includes a light detector (Column 7, lines 17-18)), which has been emitted from said light emitting section moving in said main-scanning direction, across said end of said medium (Column 2, line 67 – Column 3, lines 1-2)

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With respect to claim 7 and incorporating all arguments of claim 6, Quintana teaches:

- Wherein each position of two ends of said medium that differ in position (Column 7, lines 28-32) in the main-scanning is detected according to a change in output values of said light receiving sensor that is caused by passing of said light direction (Column 7, lines 21-25), which has been emitted from said light emitting section moving in said main-scanning direction, across each of said two ends of said medium (Column 3, lines 1-2)
- Said starting position is changed in accordance with the position of one of said two ends having been detected (Column 8, lines 18-19, 22-23)
- Said terminating position is changed in accordance with the position of the other one of said two ends having been detected (Column 7, lines 31-32)

With respect to claim 8 and incorporating all arguments of claim 1, Quintana teaches:

- Wherein said position of the end of said medium is detected by a sensor (Column 7, lines 31-32)
- Said sensor is provided in/on a movable member that comprises said ejection head (Column 4, lines 16-17)
- Said sensor includes a light emitting section for emitting light (Column 7, lines 21-22)



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- A light receiving sensor for receiving said light that moves in a main-scanning direction in accordance with a movement of said sensor in the main-scanning direction (Column 2, line 67 – Column 3, lines 1-2 where the optical sensor includes a light source and a light detector (Column 7, lines 17-18))

With respect to claim 9 and incorporating all arguments of claim 8, Quintana teaches:

- Wherein while making said moving member move in a main-scanning direction said position of the end of said medium is detected according to a change in an output value of said light receiving sensor that is caused by passing of said light (Column 4, lines 25-27 where the optical sensor includes a light detector (Column 7, lines 17-18)), which has been emitted from said light emitting section moving in said main-scanning direction, across said end of said medium (Column 2, line 67 – Column 3, lines 1-2)
- Said liquid is ejected from said ejection head onto said medium (Column 4, lines 20-24)

With respect to claim 10 and incorporating all arguments of claim 1, Quintana teaches:

- Wherein said liquid is ink (Column 4, line 20)
- Printing is carried out on a print medium, which is said medium, by ejecting said ink from said ejection head (Column 4, lines 20-24)

With respect to claim 11, Quintana teaches:

- A liquid ejecting apparatus comprising a movable ejection head for ejecting liquid (Column 4, lines 20-24)
- A feed mechanism for feeding a medium (Column 5, lines 15-16; Figure 4, #44)
- A sensor for detecting a position of an end of said medium (Column 8, lines 13-14)
- Wherein at least either a starting position or a terminating position for ejecting said liquid from said ejection head being moved (Column 8, lines 22-23) is changed according to a feed amount of said medium fed by said feed mechanism after said position of the end of said medium has been detected by said sensor (Column 8, lines 10-14)

### **Contact Information**


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kristy A. Haupt whose telephone number is (571) 272-8545. The examiner can normally be reached on M-F (7:00-3:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KAH

  
LAMSON NGUYEN  
PRIMARY EXAMINER  
04/29/05